

SEQUENCE LISTING



B
D
<110> BERTHOLD, Peter
ESCHER, Robert F.A.

<120> Anti-GPIIB/IIIA Recombinant Antibodies

<130> 100564-09049

<140> US 09/424,840

<141> 1999-12-03

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<151> 1997-06-06

<150> DE 19755227.7

<151> 1997-12-12

<150> DE 19820663.1

<151> 1998-05-08

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<170> PatentIn Ver. 2.1

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Thr Leu Ser Leu Asn Cys Thr Val Ser Gly Arg Ser Ile Ser Gly Tyr
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tct tgg aga tgg atc cgg cag tct cca ggg aag ggg cta gag tgg att 144
Ser Trp Arg Trp Ile Arg Gln Ser Pro Gly Lys Gly Leu Glu Trp Ile
35 40 45
ggg gat atc tct tat agt ggg agt acc aag tac aaa ccc tcc ctc agg 192
Gly Asp Ile Ser Tyr Ser Gly Ser Thr Lys Tyr Lys Pro Ser Leu Arg
50 55 60
agt cga gtc acc ctg tca gta gac acg tcc aag aac cag ttc tcc ctg 240
Ser Arg Val Thr Leu Ser Val Asp Thr Ser Lys Asn Gln Phe Ser Leu
65 70 75 80
aag ctg aat tcg gtg acc gct gcg gac acg gcc gtc tat tac tgt gcg 288
Lys Leu Asn Ser Val Thr Ala Ala Asp Thr Ala Val Tyr Tyr Cys Ala
85 90 95
cga gtc ttg ccc ttt gac ccg atc tcg atg gac gtc tgg ggc aaa ggg 336

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 35 40 45
 Gly Asp Ile Ser Tyr Ser Gly Ser Thr Lys Tyr Lys Pro Ser Leu Arg
 50 55 60
 Ser Arg Val Thr Leu Ser Val Asp Thr Ser Lys Asn Gln Phe Ser Leu
 65 70 75 80
 Lys Leu Asn Ser Val Thr Ala Ala Asp Thr Ala Val Tyr Tyr Cys Ala
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 acc atc tct tgt tct ggg agc agc tcc aac atc aga agt aat cct gtt 96
 Thr Ile Ser Cys Ser Gly Ser Ser Asn Ile Arg Ser Asn Pro Val
 20 25 30
 agc tgg tat cac cag gtc cca ggc acg gcc ccc aaa ctc ctc atc ttt 144
 Ser Trp Tyr His Gln Val Pro Gly Thr Ala Pro Lys Leu Leu Ile Phe

| | | | |
|---|-----|-----|-----|
| 35 | 40 | 45 | |
| | | | 192 |
| ggt agt cat cag cgg ccc tca ggg gtc cct gac cga ttc tct ggc tcc | | | |
| Gly Ser His Gln Arg Pro Ser Gly Val Pro Asp Arg Phe Ser Gly Ser | | | |
| 50 | 55 | 60 | |
| | | | 240 |
| aag tcg ggc acc tcc gcc tcc ctg gcc atc cgt ggg ctc caa tct ggg | | | |
| Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Arg Gly Leu Gln Ser Gly | | | |
| 65 | 70 | 75 | 80 |
| | | | 288 |
| gat gct ggt gac tat tac tgt gca aca tgg gat gac ggc ctc aat ggt | | | |
| Asp Ala Gly Asp Tyr Tyr Cys Ala Thr Trp Asp Asp Gly Leu Asn Gly | | | |
| 85 | 90 | 95 | |
| | | | 333 |
| ccg gtg ttc ggc gga ggg acc aag ctg acc gtc cta agt cag ccc | | | |
| Pro Val Phe Gly Gly Thr Lys Leu Thr Val Leu Ser Gln Pro | | | |
| 100 | 105 | 110 | |

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| 1 | | | | |
| | | | | |
| Thr Ile Ser Cys Ser Gly Ser Ser Asn Ile Arg Ser Asn Pro Val | | | | |
| 20 | 25 | 30 | | |
| | | | | |
| Ser Trp Tyr His Gln Val Pro Gly Thr Ala Pro Lys Leu Leu Ile Phe | | | | |
| 35 | 40 | 45 | | |
| | | | | |
| Gly Ser His Gln Arg Pro Ser Gly Val Pro Asp Arg Phe Ser Gly Ser | | | | |
| 50 | 55 | 60 | | |
| | | | | |
| Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Arg Gly Leu Gln Ser Gly | | | | |
| 65 | 70 | 75 | 80 | |
| | | | | |
| Asp Ala Gly Asp Tyr Tyr Cys Ala Thr Trp Asp Asp Gly Leu Asn Gly | | | | |
| 85 | 90 | 95 | | |
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| Pro Val Phe Gly Gly Thr Lys Leu Thr Val Leu Ser Gln Pro | | | | |
| 100 | 105 | 110 | | |

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| Gln Val Lys Leu Leu Glu Ser Gly Gly Val Val Gln Pro Gly Arg | |

| | | | | | | | | | | | | | | | | |
|---|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 1 | 5 | 10 | 15 | | | | | | | | | | | | | |
| tcc ctg aga ctc tcc tgt gca gcc tct gga ttc acc ttc agt agc tat | | | | 96 | | | | | | | | | | | | |
| Ser | Leu | Arg | Leu | Ser | Cys | Ala | Ala | Ser | Gly | Phe | Thr | Phe | Ser | Ser | Tyr | |
| | | | | 20 | | | | | 25 | | | | | 30 | | |
| gct atg cac tgg gtc cgc cag gct cca ggc aag ggg ctg gag tgg gtg | | | | | | | | | | | | | | | | 144 |
| Ala | Met | His | Trp | Val | Arg | Gln | Ala | Pro | Gly | Leu | Glu | Trp | Val | | | |
| | | | | 35 | | | | | 40 | | | | | 45 | | |
| gca gtt ata tca tat gat gga agc aat aaa tac tac gca gac tcc gtg | | | | | | | | | | | | | | | | 192 |
| Ala | Val | Ile | Ser | Tyr | Asp | Gly | Ser | Asn | Lys | Tyr | Tyr | Ala | Asp | Ser | Val | |
| | | | | 50 | | | | | 55 | | | | | 60 | | |
| aag ggc cga ttc gcc atc tcc aga gac aat tcc aag aac acg ctg tat | | | | | | | | | | | | | | | | 240 |
| Lys | Gly | Arg | Phe | Ala | Ile | Ser | Arg | Asp | Asn | Ser | Lys | Asn | Thr | Leu | Tyr | |
| | | | | 65 | | | | | 70 | | | | | 75 | 80 | |
| ctg caa atg aac acg ctg aga gct gag gac acg gct gtg tat tac tgt | | | | | | | | | | | | | | | | 288 |
| Leu | Gln | Met | Asn | Ser | Leu | Arg | Ala | Glu | Asp | Thr | Ala | Val | Tyr | Tyr | Cys | |
| | | | | 85 | | | | | 90 | | | | | 95 | | |
| tgg ggc aaa ggg acc acg gtc acc gtc tcc tca | | | | | | | | | | | | | | | | 336 |
| Trp | Gly | Lys | Gly | Thr | Thr | Val | Thr | Val | Ser | Ser | | | | | | |
| | | | | 100 | | | | | 105 | | | | | 110 | | |
| tgg ggc aaa ggg acc acg gtc acc gtc tcc tca | | | | | | | | | | | | | | | | 369 |
| Trp | Gly | Lys | Gly | Thr | Thr | Val | Thr | Val | Ser | Ser | | | | | | |
| | | | | 115 | | | | | 120 | | | | | | | |

<210> 6
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| Gln Val Lys Leu Leu Glu Ser Gly Gly Val Val Gln Pro Gly Arg | | | | | | | | | | | | | | | |
| Ser | Leu | Arg | Leu | Ser | Cys | Ala | Ala | Ser | Gly | Phe | Thr | Phe | Ser | Ser | Tyr |
| | | | | 20 | | | | | 25 | | | | | 30 | |
| Ala Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val | | | | | | | | | | | | | | | |
| | | | | 35 | | | | | 40 | | | | | 45 | |
| Ala Val Ile Ser Tyr Asp Gly Ser Asn Lys Tyr Tyr Ala Asp Ser Val | | | | | | | | | | | | | | | |
| | | | | 50 | | | | | 55 | | | | | 60 | |
| Lys Gly Arg Phe Ala Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr | | | | | | | | | | | | | | | |
| | | | | 65 | | | | | 70 | | | | | 75 | 80 |
| Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys | | | | | | | | | | | | | | | |
| | | | | 85 | | | | | 90 | | | | | 95 | |
| Ala Arg Ala Leu Gly Ser Trp Gly Gly Trp Asp His Tyr Met Asp Val | | | | | | | | | | | | | | | |
| | | | | 100 | | | | | 105 | | | | | 110 | |
| Trp Gly Lys Gly Thr Thr Val Thr Val Ser Ser | | | | | | | | | | | | | | | |
| | | | | 115 | | | | | 120 | | | | | | |

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<220>
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 <222> (1)..(333)

<400> 7

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| gtg | gtg | act | cag | cca | ccc | tca | gcg | tct | ggg | acc | ccc | ggg | cag | agg | gtc | 48 |
| Val | Val | Thr | Gln | Pro | Pro | Ser | Ala | Ser | Gly | Thr | Pro | Gly | Gln | Arg | Val | |
| 1 | 5 | | | | | | | 10 | | | | | 15 | | | |

acc atc tct tgt tct gga agc agc tcc aac atc gga agt aat act gta

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----|
| Thr | Ile | Ser | Cys | Ser | Gly | Ser | Ser | Asn | Ile | Gly | Ser | Asn | Thr | Val | 96 |
| | | | | | | | | | 25 | | | | 30 | | |
| 20 | | | | | | | | | | | | | | | |

aac tgg tac cag cag ctc cca gga acg gcc ccc aaa ctc ctc atc tat

| | | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Asn | Trp | Tyr | Gln | Gln | Leu | Pro | Gly | Thr | Ala | Pro | Lys | Leu | Leu | Ile | Tyr | 144 |
| | | | | | | | | | 35 | | | | 40 | | | |
| | | | | | | | | | | | | | 45 | | | |

agt aat aat cag cgg ccc tca ggg gtc cct gac cga ttc tct ggc tcc

| | | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Ser | Asn | Asn | Gln | Arg | Pro | Ser | Gly | Val | Pro | Asp | Arg | Phe | Ser | Gly | Ser | 192 |
| | | | | | | | | 50 | | | | 55 | | 60 | | |

aag tct ggc acc tca gcc tcc ctg gcc atc agt ggg ctc cag tct gag

| | | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Lys | Ser | Gly | Thr | Ser | Ala | Ser | Leu | Ala | Ile | Ser | Gly | Leu | Gln | Ser | Glu | 240 |
| | | | | | | | | 65 | | | 70 | | 75 | | 80 | |

gat gag gct gat tat tac tgt gca gca tgg gat gac agc ctg aat ggt

| | | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Asp | Glu | Ala | Asp | Tyr | Tyr | Cys | Ala | Ala | Trp | Asp | Asp | Ser | Leu | Asn | Gly | 288 |
| | | | | | | | | 85 | | | 90 | | 95 | | | |

tgg gtg ttc ggc gga ggg acc aag ctg acc gtc cta ggt cag ccc

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Trp | Val | Phe | Gly | Gly | Gly | Thr | Lys | Leu | Thr | Val | Leu | Gly | Gln | Pro | 333 |
| | | | | | | | | 100 | | | 105 | | 110 | | |

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<400> 8

| | | | | | | | | | | | | | | | | |
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| Val | Val | Thr | Gln | Pro | Pro | Ser | Ala | Ser | Gly | Thr | Pro | Gly | Gln | Arg | Val | |
| 1 | 5 | | | | | | | 10 | | | | | 15 | | | |

Thr Ile Ser Cys Ser Gly Ser Ser Asn Ile Gly Ser Asn Thr Val

| | | | | | | | | | | | | | | | | |
|--|--|--|--|--|--|--|--|----|--|--|----|--|----|--|--|--|
| | | | | | | | | 20 | | | 25 | | 30 | | | |
|--|--|--|--|--|--|--|--|----|--|--|----|--|----|--|--|--|

Asn Trp Tyr Gln Gln Leu Pro Gly Thr Ala Pro Lys Leu Leu Ile Tyr

| | | | | | | | | | | | | | | | | |
|--|--|--|--|--|--|--|--|----|--|--|----|--|----|--|--|--|
| | | | | | | | | 35 | | | 40 | | 45 | | | |
|--|--|--|--|--|--|--|--|----|--|--|----|--|----|--|--|--|

Ser Asn Asn Gln Arg Pro Ser Gly Val Pro Asp Arg Phe Ser Gly Ser

| | | | | | | | | | | | | | | | | |
|--|--|--|--|--|--|--|--|----|--|--|----|--|----|--|--|--|
| | | | | | | | | 50 | | | 55 | | 60 | | | |
|--|--|--|--|--|--|--|--|----|--|--|----|--|----|--|--|--|

Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Ser Gly Leu Gln Ser Glu
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 Asp Glu Ala Asp Tyr Tyr Cys Ala Ala Trp Asp Asp Ser Leu Asn Gly
 85 90 95
 Trp Val Phe Gly Gly Thr Lys Leu Thr Val Leu Gly Gln Pro
 100 105 110

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 tcc ctg aga ctc tct tgt gca gcc tct gga ttt acg ttt gac aac ttt 96
 Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Asp Asn Phe
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 gcc atg agc tgg gtc cgc cag gct cca ggg aag ggg ctg gag tgg gtc 144
 Ala Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
 35 40 45
 tca ggc att agt ggt ggt ctt ttg aca cac tac gca gac tcc gtg 192
 Ser Gly Ile Ser Gly Gly Leu Leu Thr His Tyr Ala Asp Ser Val
 50 55 60
 aag ggc cgg ttc acc atc tcc aga aac aat tcc agg aac act gta tac 240
 Lys Gly Arg Phe Thr Ile Ser Arg Asn Asn Ser Arg Asn Thr Val Tyr
 65 70 75 80
 cta caa atg aac agc ctg aga gcc gaa gac acg gcc gtg tat tat tgt 288
 Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95
 gtg aga gat ctg ggc tat aga gta ctt tcg act ttt act ttt gat atc 336
 Val Arg Asp Leu Gly Tyr Arg Val Leu Ser Thr Phe Thr Phe Asp Ile
 100 105 110
 tgg ggc cag ggg aca aag gtc acc gtc tct tca 369
 Trp Gly Gln Gly Thr Lys Val Thr Val Ser Ser
 115 120

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 <212> PRT
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 20 25 30
 Ala Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
 35 40 45
 Ser Gly Ile Ser Gly Gly Leu Leu Thr His Tyr Ala Asp Ser Val
 50 55 60
 Lys Gly Arg Phe Thr Ile Ser Arg Asn Asn Ser Arg Asn Thr Val Tyr
 65 70 75 80
 Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
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 Val Arg Asp Leu Gly Tyr Arg Val Leu Ser Thr Phe Thr Phe Asp Ile
 100 105 110
 Trp Gly Gln Gly Thr Lys Val Thr Val Ser Ser
 115 120

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 1 5 10 15
 acc atc tcc tgc act gga acc agc agt gct att ggg aat tat aac ttt 96
 Thr Ile Ser Cys Thr Gly Thr Ser Ser Ala Ile Gly Asn Tyr Asn Phe
 20 25 30
 gtc ccc tgg tac caa cag cac cca ggc aaa gcc ccc aaa ctc atg att 144
 Val Pro Trp Tyr Gln Gln His Pro Gly Lys Ala Pro Lys Leu Met Ile
 35 40 45
 tat gag ggc agt aag cgg ccc tca ggg gtt tct aat cgc ttc tct ggc 192
 Tyr Glu Gly Ser Lys Arg Pro Ser Gly Val Ser Asn Arg Phe Ser Gly
 50 55 60
 tcc aag tct ggc aac acg gcc tcc ctg aca atc tct ggg ctc cag gct 240
 Ser Lys Ser Gly Asn Thr Ala Ser Leu Thr Ile Ser Gly Leu Gln Ala
 70 75 80
 gag gac gag gct gag tat tac tgc tgc tca tat gtt cat agt agc act 288
 Glu Asp Glu Ala Glu Tyr Tyr Cys Cys Ser Tyr Val His Ser Ser Thr
 85 90 95

aat tgg gtg ttc ggc gga ggg acc aag ctg acc gtc cta ggt cag ccc 336
Asn Trp Val Phe Gly Gly Thr Lys Leu Thr Val Leu Gly Gln Pro
100 105 110

aag gct gcc ccc tcg gtc act ctg ttc cca ccc tcc tct 375
Lys Ala Ala Pro Ser Val Thr Leu Phe Pro Pro Ser Ser
115 120 125

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35 40
Tyr Glu Gly Ser Lys Arg Pro Ser Gly Val Ser Asn Arg Phe Ser Gly 60
50 55
Ser Lys Ser Gly Asn Thr Ala Ser Leu Thr Ile Ser Gly Leu Gln Ala 80
65 70 75
Glu Asp Glu Ala Glu Tyr Tyr Cys Cys Ser Tyr Val His Ser Ser Thr 95
85 90
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100 105
Lys Ala Ala Pro Ser Val Thr Leu Phe Pro Pro Ser Ser 125
115 120

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Gln Val Lys Leu Leu Glu Ser Gly Pro Gly Leu Val Lys Pro Ser Glu 15
1 5 10 15
acc ctg tct ctc acc tgc act gtc tct gat gtc tcc atc aga agt cat 96
Thr Leu Ser Leu Thr Cys Thr Val Ser Asp Val Ser Ile Arg Ser His
20 25 30
tac tgg agt tgg ctc cgg cag ccc cca ggg aag gga ctg gag tgg att 144
8

| | | |
|---|-----|--|
| Tyr Trp Ser Trp Leu Arg Gln Pro Pro Gly Lys Gly Leu Glu Trp Ile | 45 | |
| 35 | 40 | |
| ggg ttt atc tat gac ggt gcg aga acc agg ttc aac ccc tcc ctc agg | 192 | |
| Gly Phe Ile Tyr Asp Gly Ala Arg Thr Arg Phe Asn Pro Ser Leu Arg | 60 | |
| 50 | 55 | |
| agt cga gtc tcc ctt tca atg gac cca tcc aag aag cag ttt tcc ctg | 240 | |
| Ser Arg Val Ser Leu Ser Met Asp Pro Ser Lys Lys Gln Phe Ser Leu | 80 | |
| 70 | 75 | |
| aaa ctg ggg tct gtg acc gct gcg gac tcg gcc gtc tac tac tgt gcg | 288 | |
| Lys Leu Gly Ser Val Thr Ala Ala Asp Ser Ala Val Tyr Tyr Cys Ala | 95 | |
| 85 | 90 | |
| aga gac gcg gat gga gat ggc ttc agc cca tac tac ttt ccc tac tgg | 336 | |
| Arg Asp Ala Asp Gly Asp Gly Phe Ser Pro Tyr Tyr Phe Pro Tyr Trp | 110 | |
| 100 | 105 | |
| ggc cag gga atc ccg gtc tcc gtc tcc tcg | 366 | |
| Gly Gln Gly Ile Pro Val Ser Val Ser Ser | 120 | |
| 115 | | |

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| Gln Val Lys Leu Leu Glu Ser Gly Pro Gly Leu Val Lys Pro Ser Glu | 15 | |
| 1 | 5 | |
| Thr Leu Ser Leu Thr Cys Thr Val Ser Asp Val Ser Ile Arg Ser His | 30 | |
| 20 | 25 | |
| Tyr Trp Ser Trp Leu Arg Gln Pro Pro Gly Lys Gly Leu Glu Trp Ile | 45 | |
| 35 | 40 | |
| Gly Phe Ile Tyr Asp Gly Ala Arg Thr Arg Phe Asn Pro Ser Leu Arg | 60 | |
| 50 | 55 | |
| Ser Arg Val Ser Leu Ser Met Asp Pro Ser Lys Lys Gln Phe Ser Leu | 80 | |
| 65 | 70 | |
| Lys Leu Gly Ser Val Thr Ala Ala Asp Ser Ala Val Tyr Tyr Cys Ala | 95 | |
| 85 | 90 | |
| Arg Asp Ala Asp Gly Asp Gly Phe Ser Pro Tyr Tyr Phe Pro Tyr Trp | 110 | |
| 100 | 105 | |
| Gly Gln Gly Ile Pro Val Ser Val Ser Ser | 120 | |
| 115 | | |

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Gln Val Lys Leu Leu Glu Ser Gly Gly Val Val His Pro Gly Arg
1 5 10 15
tcc ctg aga ctc tcc tgt gca gcc tct gga ttc acc ttc agt agc tat 96
Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser Tyr
20 25 30
act atg cac tgg gtc cgc cag gct cca ggc aag ggg ctg gag tgg gtg 144
Thr Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45
gca ctt ata tca tat gat gga agc aat aaa tac tac gca gac tcc gtg 192
Ala Leu Ile Ser Tyr Asp Gly Ser Asn Lys Tyr Tyr Ala Asp Ser Val
50 55 60
.aag ggc cga ttc gcc atc tcc aga gac aat tcc aag aac acg cta tat 240
Lys Gly Arg Phe Ala Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80
ctg caa atg aac agc ctg aga gct gag gac acg gct gtg tat tac tgt 288
Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95
gcg aaa gat ggc cgg agt ggg agc tac gcc agg ttc gac ggt atg gac 336
Ala Lys Asp Gly Arg Ser Gly Ser Tyr Ala Arg Phe Asp Gly Met Asp
100 105 110
gtc tgg ggc caa ggg acc acg gtc acc gtc tcc tca 372
Val Trp Gly Gln Gly Thr Thr Val Thr Val Ser Ser
115 120
16

<210> 16
<211> 124
<212> PRT
<213> Homo sapiens

<400> 16
Gln Val Lys Leu Leu Glu Ser Gly Gly Val Val His Pro Gly Arg
1 5 10 15
Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser Tyr
20 25 30
Thr Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45
Ala Leu Ile Ser Tyr Asp Gly Ser Asn Lys Tyr Tyr Ala Asp Ser Val
50 55 60
Lys Gly Arg Phe Ala Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80
10

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95
 Ala Lys Asp Gly Arg Ser Gly Ser Tyr Ala Arg Phe Asp Gly Met Asp
 100 105 110
 Val Trp Gly Gln Gly Thr Thr Val Thr Val Ser Ser
 115 120

<210> 17
 <211> 372
 <212> DNA
 <213> Homo sapiens

<220>
 <221> CDS
 <222> (1)..(372)

<400> 17 48
 cag gtg aaa ctg ctc gag tct ggg gga ggc ttg gta cag cct ggc agg
 -Gln Val Lys Leu Leu Glu Ser Gly Gly Leu Val Gln Pro Gly Arg
 1 5 10 15
 tcc ctg aga ctc tcc tgt gca gcc tct gga ttc acc ttt gat gat tat 96
 Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Asp Asp Tyr
 20 25 30
 gcc ctg cac tgg gtc cgt caa gct cca ggg aag ggc ctg gag tgg gtc 144
 Ala Leu His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
 35 40 45
 tca ggt att agt tgg gat agt ggt acc ata ggc tat gcg gac tct tgt 192
 Ser Gly Ile Ser Trp Asp Ser Gly Thr Ile Gly Tyr Ala Asp Ser Val
 50 55 60
 aag ggc cga ttc acc atc tcc aga gac aac gcc aag aac tcc ctg tat 240
 Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn Ser Leu Tyr
 65 70 75 80
 ctg caa atg aac agt ctg aga gct gag gac acg gcc ttg tat tac tgt 288
 Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Leu Tyr Tyr Cys
 85 90 95
 gta aaa gat atg ggg tct tcg gta gtg gct acg tac aat gct ttt gat 336
 Val Lys Asp Met Gly Ser Ser Val Val Ala Thr Tyr Asn Ala Phe Asp
 100 105 110
 atc tgg ggc caa ggg aca atg gtc acc gtc tct tca 372
 Ile Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 18
 <211> 124
 <212> PRT
 <213> Homo sapiens

<400> 18

Gln Val Lys Leu Leu Glu Ser Gly Gly Leu Val Gln Pro Gly Arg
 1 5 10 15
 Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Asp Asp Tyr
 20 25 30
 Ala Leu His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
 35 40 45
 Ser Gly Ile Ser Trp Asp Ser Gly Thr Ile Gly Tyr Ala Asp Ser Val
 50 55 60
 Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn Ser Leu Tyr
 65 70 75 80
 Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Leu Tyr Tyr Cys
 85 90 95
 Val Lys Asp Met Gly Ser Ser Val Val Ala Thr Tyr Asn Ala Phe Asp
 100 105 110
 Ile Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 19
 <211> 360
 <212> DNA
 <213> Homo sapiens

<220>
 <221> CDS
 <222> (1)..(360)

<400> 19 48
 cag gtg aaa ctg ctc gag tca ggc cca gga ctg gtg aag cct tcg gag
 Gln Val Lys Leu Leu Glu Ser Gly Pro Gly Leu Val Lys Pro Ser Glu
 1 5 10 15
 acc ctg tcc ctc acc tgc act gtc tct ggt ggc tcc ttc agt act tac 96
 Thr Leu Ser Leu Thr Cys Thr Val Ser Gly Gly Ser Phe Ser Thr Tyr
 20 25 30
 tat tgg agc tgg atc cgg cag ccc cca ggg aag gga ctg gag tgg att 144
 Tyr Trp Ser Trp Ile Arg Gln Pro Pro Gly Lys Gly Leu Glu Trp Ile
 35 40 45
 ggg tat atc tat tac agt ggg aac acc aac tac aac ccc tcc ctc aag 192
 Gly Tyr Ile Tyr Tyr Ser Gly Asn Thr Asn Tyr Asn Pro Ser Leu Lys
 50 55 60
 agt cga gcc acc ata tca gta gac acg tcc aag aac cag ttc tcc ctg 240
 Ser Arg Ala Thr Ile Ser Val Asp Thr Ser Lys Asn Gln Phe Ser Leu
 65 70 75 80
 aag ctg agc tct gtt acc gcc gca gac acg gcc gta tat tac tgt gcg 288
 Lys Leu Ser Ser Val Thr Ala Ala Asp Thr Ala Val Tyr Tyr Cys Ala
 85 90 95

aga ctg cgt aac gat ggc tgg aat gat ggc ttt gat atc tgg ggc caa 336
Arg Leu Arg Asn Asp Gly Trp Asn Asp Gly Phe Asp Ile Trp Gly Gln
100 105 110

360
ggg aca atg gtc acc gtc tct tca
Gly Thr Met Val Thr Val Ser Ser
115 120

<210> 20
<211> 120
<212> PRT
<213> Homo sapiens

<400> 20
Gln Val Lys Leu Leu Glu Ser Gly Pro Gly Leu Val Lys Pro Ser Glu 15
1 5 10
Thr Leu Ser Leu Thr Cys Thr Val Ser Gly Gly Ser Phe Ser Thr Tyr 30
20 25
Tyr Trp Ser Trp Ile Arg Gln Pro Pro Gly Lys Gly Leu Glu Trp Ile 45
35 40
Gly Tyr Ile Tyr Tyr Ser Gly Asn Thr Asn Tyr Asn Pro Ser Leu Lys 55
50 55 60
Ser Arg Ala Thr Ile Ser Val Asp Thr Ser Lys Asn Gln Phe Ser Leu 80
65 70 75
Lys Leu Ser Ser Val Thr Ala Ala Asp Thr Ala Val Tyr Tyr Cys Ala 95
85 90
Arg Leu Arg Asn Asp Gly Trp Asn Asp Gly Phe Asp Ile Trp Gly Gln 110
100 105
Gly Thr Met Val Thr Val Ser Ser 120
115

<210> 21
<211> 369
<212> DNA
<213> Homo sapiens

<220>
<221> CDS
<222> (1)...(369)

<400> 21 48
cag gtg aaa ctg ctc gag tct ggg gga ggc gtg gtc cag cct ggg agg
Gln Val Lys Leu Leu Glu Ser Gly Gly Val Val Gln Pro Gly Arg 15
1 5 10 15
tcc ctg aga ctc tcc tgt gca gcc tct gga ttc acc ttc agt gac tat 96
Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Asp Tyr 30
20 25
ggc atg cac tgg gtc cgc cag gct cca ggc aag ggg ctg gag tgg gtg 144
13

| | | | |
|---|-----|-----|-----|
| Gly Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val | 40 | 45 | |
| 35 | | | |
| gca gct ata tca tat gat gga agt aac aaa tac tat gca gac tcc gtg | | | 192 |
| Ala Ala Ile Ser Tyr Asp Gly Ser Asn Lys Tyr Ala Asp Ser Val | | | |
| 50 | 55 | 60 | |
| aag ggc cga ttc tcc atc tcc aga gac aat tcc aac aat acg cta tat | | | 240 |
| Lys Gly Arg Phe Ser Ile Ser Arg Asp Asn Ser Asn Asn Thr Leu Tyr | | | |
| 70 | 75 | 80 | |
| ctg caa atg agc acc ctg aga gct gag gac acg gct gtc tat ttc tgt | | | 288 |
| Leu Gln Met Ser Thr Leu Arg Ala Glu Asp Thr Ala Val Tyr Phe Cys | | | |
| 85 | 90 | 95 | |
| gcg aga gat tcg gaa acg gca ata gca gct gga cggttt gat atc | | | 336 |
| Ala Arg Asp Ser Glu Thr Ala Ile Ala Ala Gly Arg Phe Asp Ile | | | |
| 100 | 105 | 110 | |
| tgg ggc caa ggg aca atg gtc acc gtc tct tca | | | 369 |
| Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser | | | |
| 115 | 120 | | |

<210> 22
 <211> 123
 <212> PRT
 <213> Homo sapiens

| | | | |
|---|-----|-----|----|
| <400> 22 | | | |
| Gln Val Lys Leu Leu Glu Ser Gly Gly Val Val Gln Pro Gly Arg | | | |
| 1 | 5 | 10 | 15 |
| Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Asp Tyr | | | |
| 20 | 25 | 30 | |
| Gly Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val | | | |
| 35 | 40 | 45 | |
| Ala Ala Ile Ser Tyr Asp Gly Ser Asn Lys Tyr Ala Asp Ser Val | | | |
| 50 | 55 | 60 | |
| Lys Gly Arg Phe Ser Ile Ser Arg Asp Asn Ser Asn Asn Thr Leu Tyr | | | |
| 65 | 70 | 75 | 80 |
| Leu Gln Met Ser Thr Leu Arg Ala Glu Asp Thr Ala Val Tyr Phe Cys | | | |
| 85 | 90 | 95 | |
| Ala Arg Asp Ser Glu Thr Ala Ile Ala Ala Gly Arg Phe Asp Ile | | | |
| 100 | 105 | 110 | |
| Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser | | | |
| 115 | 120 | | |

<210> 23
 <211> 366
 <212> DNA
 <213> Homo sapiens

<220>
<221> CDS
<222> (1)..(366)

<400> 23 48
cag gtg aaa ctg ctc gag tct ggg gct gag gtg aag aag cct ggg tcc
Gln Val Lys Leu Leu Glu Ser Gly Ala Glu Val Lys Lys Pro Gly Ser
1 5 10 15
tcg gtg atg gtc tcc tgc aag gct tct gga ggc acc ttc agc agc cat 96
Ser Val Met Val Ser Cys Lys Ala Ser Gly Gly Thr Phe Ser Ser His
20 25 30
act atc agc tgg gtg cgg cag gcc cct gga caa ggc ctt gag tgg atg 144
Thr Ile Ser Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
35 40 45
gga ggg atc acc cct atc ttt ggt aca gtg aac tac gca cag aag ttc 192
Gly Gly Ile Thr Pro Ile Phe Gly Thr Val Asn Tyr Ala Gln Lys Phe
50 55 60
-cag ggc aga gtc acc att acc gcg gac gaa ccc acg agc aca gcc tac 240
Gln Gly Arg Val Thr Ile Ala Asp Glu Pro Thr Ser Thr Ala Tyr
65 70 75 80
atg gaa ctg agg agc ctg aca tct gac gac tcg ggc atc tat tac tgt 288
Met Glu Leu Arg Ser Leu Thr Ser Asp Asp Ser Gly Ile Tyr Tyr Cys
85 90 95
gcg aga gaa gat ggc act aca gta cca agt caa ccc ctt gag ttc tgg 336
Ala Arg Glu Asp Gly Thr Thr Val Pro Ser Gln Pro Leu Glu Phe Trp
100 105 110
ggc cag gga acc cgg gtc acc gtc tcc tct 366
Gly Gln Gly Thr Arg Val Thr Val Ser Ser
115 120
15

<210> 24
<211> 122
<212> PRT
<213> Homo sapiens

<400> 24
Gln Val Lys Leu Leu Glu Ser Gly Ala Glu Val Lys Lys Pro Gly Ser
1 5 10 15
Ser Val Met Val Ser Cys Lys Ala Ser Gly Gly Thr Phe Ser Ser His
20 25 30
Thr Ile Ser Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
35 40 45
Gly Gly Ile Thr Pro Ile Phe Gly Thr Val Asn Tyr Ala Gln Lys Phe
50 55 60
Gln Gly Arg Val Thr Ile Thr Ala Asp Glu Pro Thr Ser Thr Ala Tyr
65 70 75 80
15

Met Glu Leu Arg Ser Leu Thr Ser Asp Asp Ser Gly Ile Tyr Tyr Cys
 85 90 95
 Ala Arg Glu Asp Gly Thr Thr Val Pro Ser Gln Pro Leu Glu Phe Trp
 100 105 110
 Gly Gln Gly Thr Arg Val Thr Val Ser Ser
 115 120

<210> 25
 <211> 363
 <212> DNA
 <213> Homo sapiens

<220>
 <221> CDS
 <222> (1)..(363)

<400> 25 48
 cag gtg aaa ctg ctc gag tct ggg gga ggc ttg gtc cag cct ggg ggg
 Gln Val Lys Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1 5 10 15
 tcc ctg aga ctc tcc tgt tca gcc tct gga ttc acc ttc aat aaa tat 96
 Ser Leu Arg Leu Ser Cys Ser Ala Ser Gly Phe Thr Phe Asn Lys Tyr
 20 25 30
 gca ata cac tgg gtc cgc cag gct cca ggg aag gga ctg gaa tat gtt 144
 Ala Ile His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Tyr Val
 35 40 45
 tca gct att agt agt aat ggg ggt aac aca tac tac gca gac tcc gtg 192
 Ser Ala Ile Ser Ser Asn Gly Gly Asn Thr Tyr Tyr Ala Asp Ser Val
 50 55 60
 aag ggc aga ttc acc atc tcc aga gac aat tcc aag aac acg gtg tat 240
 Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Val Tyr
 65 70 75 80
 ctt caa atg agc agt ctg aga gct gag gac acg gct gtg tat tac tgt 288
 Leu Gln Met Ser Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95
 gtt aga gga agt ggg agc tac tta gga tac tac ttt gac tac tgg ggc 336
 Val Arg Gly Ser Gly Ser Tyr Leu Gly Tyr Tyr Phe Asp Tyr Trp Gly
 100 105 110
 cag gga acc ctg gtc acc gtc tcc tca 363
 Gln Gly Thr Leu Val Thr Val Ser Ser
 115 120

<210> 26
 <211> 121
 <212> PRT
 <213> Homo sapiens

<400> 26

Gln Val Lys Leu Leu Glu Ser Gly Gly Leu Val Gln Pro Gly Gly
 1 5 10 15
 Ser Leu Arg Leu Ser Cys Ser Ala Ser Gly Phe Thr Phe Asn Lys Tyr
 20 25 30
 Ala Ile His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Tyr Val
 35 40 45
 Ser Ala Ile Ser Ser Asn Gly Gly Asn Thr Tyr Tyr Ala Asp Ser Val
 50 55 60
 Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Val Tyr
 65 70 75 80
 Leu Gln Met Ser Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95
 Val Arg Gly Ser Gly Ser Tyr Leu Gly Tyr Tyr Phe Asp Tyr Trp Gly
 100 105 110
 Gln Gly Thr Leu Val Thr Val Ser Ser
 115 120

<210> 27
 <211> 366
 <212> DNA
 <213> Homo sapiens

<220>
 <221> CDS
 <222> (1)..(366)

<400> 27 48
 gtg gtg act cag cca ccc tcg gtg tca gtg gct cca aga cag acg gcc
 1 5 10 15
 Val Val Thr Gln Pro Pro Ser Val Val Ala Pro Arg Gln Thr Ala
 acg att acc tgt ggg gga tac aag att gga agt aaa agt gtc cac tgg 96
 Thr Ile Thr Cys Gly Gly Tyr Lys Ser Lys Ser Val His Trp
 20 25 30
 tac caa cag aag cca ggc cag gcc cct gta ttg gtc gtc tat gag gat 144
 Tyr Gln Gln Lys Pro Gly Gln Ala Pro Val Leu Val Val Tyr Glu Asp
 35 40 45
 Ser Tyr Arg Pro Ser Glu Ile Pro Glu Arg Phe Ser Gly Ser Asn Ser
 50 55 60
 tcc tac cgg ccc tca gag atc cct gag cga ttc tct ggc tcc aac tct 192
 Gly Asn Met Ala Thr Leu Thr Ile Gly Val Glu Ala Gly Asp Glu
 65 70 75 80
 ggg aac atg gcc acc ctg acc atc acc ggg gtc gaa gcc ggg gat gag 240
 Ala Asp Tyr Tyr Cys Gln Val Trp Asp Asn Thr Asn Asp Gln Thr Ile
 85 90 95
 gcc gac tac tac tgt cag gtg tgg gat aat act aat gat cag acg ata

ttc ggc gga ggg acc aag ctg acc gtc cta cgt cag ccc aag gct gcc 336
Phe Gly Gly Gly Thr Lys Leu Thr Val Leu Arg Gln Pro Lys Ala Ala
100 105 110

ccc tcg gtc act ctg ttc ccg ccc tcc tct 366
Pro Ser Val Thr Leu Phe Pro Pro Ser Ser
115 120

<210> 28
<211> 122
<212> PRT
<213> Homo sapiens

<400> 28
Val Val Thr Gln Pro Pro Ser Val Ala Pro Arg Gln Thr Ala 15
1 5 10
Thr Ile Thr Cys Gly Gly Tyr Lys Ile Gly Ser Lys Ser Val His Trp
20 25 30
Tyr Gln Gln Lys Pro Gly Gln Ala Pro Val Leu Val Val Tyr Glu Asp
35 40 45
Ser Tyr Arg Pro Ser Glu Ile Pro Glu Arg Phe Ser Gly Ser Asn Ser
50 55 60
Gly Asn Met Ala Thr Leu Thr Ile Thr Gly Val Glu Ala Gly Asp Glu
65 70 75 80
Ala Asp Tyr Tyr Cys Gln Val Trp Asp Asn Thr Asn Asp Gln Thr Ile
85 90 95
Phe Gly Gly Thr Lys Leu Thr Val Leu Arg Gln Pro Lys Ala Ala
100 105 110
Pro Ser Val Thr Leu Phe Pro Pro Ser Ser
115 120

<210> 29
<211> 366
<212> DNA
<213> Homo sapiens

<220>
<221> CDS
<222> (1)...(366)

<400> 29 48
cag gtg aaa ctg ctc gag tct ggg gct gag gtg aag aag cct ggg gcc
Gln Val Lys Leu Leu Glu Ser Gly Ala Glu Val Lys Lys Pro Gly Ala
1 5 10 15
tca gtg aag gtc tcc tgc aag gtt tcc gga tac acc ctc act gaa tta 96
Ser Val Lys Val Ser Cys Lys Val Ser Gly Tyr Thr Leu Thr Glu Leu
20 25 30
tcc atg cac tgg gtg cga cag gct cct gga aaa ggg ctt gag tgg atg 144
18

| | | |
|---|-----|--|
| Ser Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Met | 45 | |
| 35 | 40 | |
| gga ggt ttt gat cct gaa gat ggt gaa aca atc tac gca cag aaa ttc | 192 | |
| Gly Gly Phe Asp Pro Glu Asp Gly Glu Thr Ile Tyr Ala Gln Lys Phe | 55 | |
| 50 | 60 | |
| cag ggc aga gtc acc atg acc gag gac aca tct aca gac acg gcc tac | 240 | |
| Gin Gly Arg Val Thr Met Thr Glu Asp Thr Ser Thr Asp Thr Ala Tyr | 75 | |
| 65 | 80 | |
| atg gag ctg agc ctg aga tct gag gac acg gcc gtg tat tac tgt | 288 | |
| Met Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr Tyr Cys | 95 | |
| 85 | 90 | |
| gag aca ggt ctg agg tcg tac aac tat ggt cgt aac ctt gac tat tgg | 336 | |
| Glu Thr Gly Leu Arg Ser Tyr Asn Tyr Gly Arg Asn Leu Asp Tyr Trp | 110 | |
| 100 | 105 | |
| ggc cag gga acc ctg gtc acc gtc tcc tca | 366 | |
| Gly Gln Gly Thr Leu Val Thr Val Ser Ser | 120 | |
| 115 | | |

<210> 30
 <211> 122
 <212> PRT
 <213> Homo sapiens

| | | |
|---|-----|--|
| <400> 30 | | |
| Gln Val Lys Leu Leu Glu Ser Gly Ala Glu Val Lys Lys Pro Gly Ala | 15 | |
| 1 | 5 | |
| Ser Val Lys Val Ser Cys Lys Val Ser Gly Tyr Thr Leu Thr Glu Leu | 30 | |
| 20 | 25 | |
| ser Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Met | 45 | |
| 35 | 40 | |
| Gly Gly Phe Asp Pro Glu Asp Gly Glu Thr Ile Tyr Ala Gln Lys Phe | 60 | |
| 50 | 55 | |
| Gln Gly Arg Val Thr Met Thr Glu Asp Thr Ser Thr Asp Thr Ala Tyr | 80 | |
| 65 | 70 | |
| Met Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr Tyr Cys | 95 | |
| 85 | 90 | |
| Glu Thr Gly Leu Arg Ser Tyr Asn Tyr Gly Arg Asn Leu Asp Tyr Trp | 110 | |
| 100 | 105 | |
| Gly Gln Gly Thr Leu Val Thr Val Ser Ser | 120 | |
| 115 | | |

<210> 31
 <211> 11
 <212> PRT
 <213> Homo sapiens

<400> 31
Val Leu Pro Phe Asp Pro Ile Ser Met Asp Val
1 5 10

<210> 32
<211> 14
<212> PRT
<213> Homo sapiens

<400> 32
Ala Leu Gly Ser Trp Gly Gly Trp Asp His Tyr Met Asp Val
1 5 10

<210> 33
<211> 5
<212> PRT
<213> Homo sapiens

<400> 33
Gly Tyr Ser Trp Arg
1 5

<210> 34
<211> 5
<212> PRT
<213> Homo sapiens

<400> 34
Ser Tyr Ala Met His
1 5

<210> 35
<211> 16
<212> PRT
<213> Homo sapiens

<400> 35
Asp Ile Ser Tyr Ser Gly Ser Thr Lys Tyr Lys Pro Ser Leu Arg Ser
1 5 10 15

<210> 36
<211> 17
<212> PRT
<213> Homo sapiens

<400> 36
Val Ile Ser Tyr Asp Gly Ser Asn Lys Tyr Tyr Ala Asp Ser Val Lys Gly
1 5 10 15

<210> 37
<211> 11
<212> PRT
<213> Homo sapiens

<400> 37
Ala Thr Trp Asp Asp Gly Leu Asn Gly Pro Val
1 5 10

<210> 38
<211> 11
<212> PRT
<213> Homo sapiens

<400> 38
Ala Ala Trp Asp Asp Ser Leu Asn Gly Trp Val
1 5 10

<210> 39
<211> 13
<212> PRT
<213> Homo sapiens

<400> 39
Ser Gly Ser Ser Ser Asn Ile Arg Ser Asn Pro Val Ser
1 5 10

<210> 40
<211> 13
<212> PRT
<213> Homo sapiens

<400> 40
Ser Gly Ser Ser Ser Asn Ile Gly Ser Asn Thr Val Asn
1 5 10

<210> 41
<211> 7
<212> PRT
<213> Homo sapiens

<400> 41
Gly Ser His Gln Arg Pro Ser
1 5

<210> 42
<211> 7
<212> PRT
<213> Homo sapiens

<400> 42
Ser Asn Asn Gln Arg Pro Ser
1 5

<210> 43
<211> 16
<212> PRT
<213> Homo sapiens

<400> 43
Val Arg Asp Leu Gly Tyr Arg Val Leu Ser Thr Phe Thr Phe Asp Ile
5 10 15
1

<210> 44
<211> 15
<212> PRT
<213> Homo sapiens

<400> 44
Asp Gly Arg Ser Gly Ser Tyr Ala Arg Phe Asp Gly Met Asp Val
5 10 15
1

<210> 45
<211> 14
<212> PRT
<213> Homo sapiens

<400> 45
Met Gly Ser Ser Val Val Ala Thr Tyr Asn Ala Phe Asp Ile
5 10
1

<210> 46
<211> 14
<212> PRT
<213> Homo sapiens

<400> 46
Asp Ala Asp Gly Asp Gly Phe Ser Pro Tyr Tyr Phe Pro Tyr
5 10
1

<210> 47
<211> 12
<212> PRT
<213> Homo sapiens

<400> 47
Leu Arg Asn Asp Gly Trp Asn Asp Gly Phe Asp Ile
5 10
1

<210> 48
<211> 14
<212> PRT
<213> Homo sapiens

<400> 48
Asp Ser Glu Thr Ala Ile Ala Ala Gly Arg Phe Asp Ile
5 10
1

<210> 49
<211> 13
<212> PRT
<213> Homo sapiens

<400> 49
Glu Asp Gly Thr Thr Val Pro Ser Gln Pro Leu Glu Phe
5 10
1

<210> 50
<211> 12
<212> PRT
<213> Homo sapiens

<400> 50
Gly Ser Gly Ser Tyr Leu Gly Tyr Tyr Phe Asp Tyr
5 10
1

<210> 51
<211> 13
<212> PRT
<213> Homo sapiens

<400> 51
Gly Leu Arg Ser Tyr Asn Tyr Gly Arg Asn Leu Asp Tyr
5 10
1

<210> 52
<211> 9
<212> PRT
<213> Homo sapiens

<400> 52
Cys Ser Tyr Val His Ser Ser Thr Asn
5 1

<210> 53
<211> 9
<212> PRT
<213> Homo sapiens

<400> 53
Gln Val Trp Asp Asn Thr Asn Asp Gln
5 1

<210> 54
<211> 5
<212> PRT
<213> Homo sapiens

<400> 54
Asn Phe Ala Met Ser
5 1

<210> 55
<211> 5
<212> PRT
<213> Homo sapiens

<400> 55
Ser Tyr Thr Met His
1 5

<210> 56
<211> 5
<212> PRT
<213> Homo sapiens

<400> 56
Asp Tyr Ala Leu His
1 5

<210> 57
<211> 5
<212> PRT
<213> Homo sapiens

<400> 57
Ser His Tyr Trp Ser
1 5

v

- <210> 58
<211> 5
<212> PRT
<213> Homo sapiens

<400> 58
Thr Tyr Tyr Trp Ser
1 5

<210> 59
<211> 5
<212> PRT
<213> Homo sapiens

<400> 59
Asp Tyr Gly Met His
1 5

<210> 60
<211> 5
<212> PRT
<213> Homo sapiens

<400> 60
Ser His Thr Ile Ser
1 5

<210> 61
<211> 5
<212> PRT
<213> Homo sapiens

<400> 61
Lys Tyr Ala Ile His
1 5

<210> 62
<211> 5
<212> PRT
<213> Homo sapiens

<400> 62
Glu Leu Ser Met His
1 5

<210> 63
<211> 17
<212> PRT
<213> Homo sapiens

<400> 63
Gly Ile Ser Gly Gly Gly Leu Leu Thr His Tyr Ala Asp Ser Val Lys Gly
1 5 10 15

↳

• <210> 64
<211> 17
<212> PRT
<213> Homo sapiens

<400> 64
Gly Ile Ser Gly Gly Gly Leu Leu Thr His Tyr Ala Asn Ser Val Lys Gly
1 5 10 15

<210> 65
<211> 17
<212> PRT
<213> Homo sapiens

<400> 65
Gly Ile Thr Pro Ile Phe Gly Thr Val Asn Tyr Ala Gln Lys Phe Gln Gly
1 5 10 15

<210> 66
<211> 14
<212> PRT
<213> Homo sapiens

<400> 66
Thr Gly Thr Ser Ser Ala Ile Gly Asn Tyr Asn Phe Val Pro
1 5 10

<210> 67
<211> 11
<212> PRT
<213> Homo sapiens

<400> 67
Gly Gly Tyr Lys Ile Gly Ser Lys Ser Val His
1 5 10

<210> 68
<211> 7
<212> PRT
<213> Homo sapiens

<400> 68
Glu Gly Ser Lys Arg Pro Ser
1 5

<210> 69
<211> 7
<212> PRT
<213> Homo sapiens

<400> 69
Glu Asp Ser Tyr Arg Pro Ser
1 5

<210> 70
<211> 17
<212> PRT
<213> Homo sapiens

<400> 70
Gly Ile Ser Trp Asp Ser Thr Ser Ile Gly Tyr Ala Asp Ser Val Lys Gly
1 5 10 15

<210> 71
<211> 16
<212> PRT
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ccagaggt

<210> 118
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<213> Artificial Sequence

<220>
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Oligonucleotide

<400> 118
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at tctat tttcaa gg

<210> 119
<211> 18
<212> DNA
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<220>
<223> Description of Artificial Sequence: Synthetic
Oligonucleotide

<400> 119
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agtgtggc

<210> 120
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<213> Artificial Sequence

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<223> *Oligonucleotide*

<400> 120 cacaacagag gcagttcc 18

<210> 121
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<400> 122 Gly Gly Tyr Lys Ile Gly Ser Lys Ser Val His
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<210> 123
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<213> *Homo sapiens*

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- Phe Asp Asp Tyr

Ala 200 40
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50 55 60 Ser Gly Ile Ser Trp Asp Ser Thr Ser Ile Gly Tyr Ala Asp Ser Val
50 55 60 Ser Gly Ile Ser Trp Asp Ser Thr Ser Ile Gly Tyr Ala Asp Ser Val

65 Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Leu Tyr Tyr Cys
 85 90 95
 85 Phe Asp

65 Val Lys Asp Met Gly Ser Ser Val Val Ala Thr Tyr Asn Ala Phe Asp
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Ser

Ile Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
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115

120

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